



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Project: Design, Development, and Documentation of Web Applications

CSE 3901

Credit Hours:

4.00

Course Levels:

Undergraduate (1000-5000 level)

Course Components:

Lecture

Course Description:

Intensive group project involving design, development, and documentation of a web application; client-side and server-side scripting; communication skills emphasized; builds programming maturity.

Prerequisites and Co-requisites:

Prereq: 2231; and 2321; and 2421 or 3430, or 2451 and ECE 2560; and enrollment in CSE, CIS, ECE, or Data Analytics major.

Course Goals / Objectives:

- Be competent in the development of dynamic web applications using Java-based technologies
 - Be competent in the development and formatting of static web content
 - Be competent with writing, organizational, and presentation skills
 - Be competent with analyzing the intended audience for a written document and writing an audience profile
 - Be familiar with making engineering decisions involving tradeoffs
 - Be familiar with the use of SQL to access database content
 - Be familiar with defining the purpose (persuade, inform, etc.) of a written document and select the appropriate rhetorical devices
 - Be familiar with writing several pieces of documentation that have different purposes and to use appropriate organization to tie them together
 - Be familiar with group project organization techniques including conducting group meetings, recording minutes, and tracking project progress
 - Be familiar with using one structured approach to large software design to carry out a large group project
 - Be exposed to the use of application frameworks for the deployment of web applications
 - Be exposed to some basic security vulnerabilities sometimes found in web applications
 - Be exposed to methods for internationalizing web applications
-

Course Topics:

- Static web and networking (HTTP)
 - Document content and formatting (HTML, XHTML, XML, CSS)
 - Client-side scripting with JavaScript
 - Databases (MySQL, JDBC)
 - Model-view-controller design pattern
 - Server-side scripting with servlets and Java Server Pages
 - Sessions and state (JavaBeans)
 - Tag libraries (JSTL)
 - Authentication and security (SSL, SQL injection attacks, Cross-site scripting attacks)
 - Deployment frameworks (eg Struts, Webwork, Hibernate, Spring)
 - Internationalization and localization
 - Performance considerations
 - Technical writing
 - Improving responsiveness with asynchronous requests (Ajax)
 - Introduction to web services (SOAP/WSDL/UDDI)
-

Designation:

Required

Elective